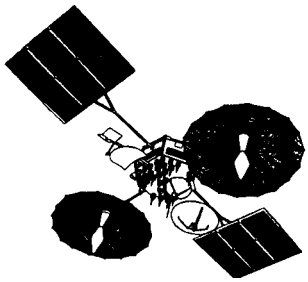
TDRS 4

Tracking and Data Relay Satellite 4

Spacecraft Sketch	Mission Objective
	The Tracking and Data Relay Satellite System (TDRSS) consists of three Tracking and Data Relay Satellites (TDRS's) in geostationary orbit, a ground terminal and other supporting ground facilities. Two satellites will be active and support NASA TDRSS requirements, while one satellite will be primarily an orbiting spare. The TDRS's will relay communications between spacecraft primarily in low-altitude earth orbit and user project mission control centers via the White Sands Ground Terminal (WSGT) located at White Sands Test Facility (WSTF) and the NASA Communications Network (NASCOM).

TYPE OF MISSION	PROGRAM OFFICE	PROJECT LEAD CENTER	MANAGEMENT APPROACH	S/C CONTRACTOR	I&T CONTRACTOR
SPACE FLIGHT CONTROL & DATA COMM.	SPACE TRACKING & DATA SYSTEMS	GSFC	OUT-OF-HOUSE	TRW	TRW

Payload Description

Each Tracking and Data Relay Satellite (TDRS) includes three modules: 1) a telecommunications module; 2) an antenna module that supports the deployable and fixed antennas and the multiple-access array; and 3) an equipment module which contains the spacecraft bus subsystems. The telecommunications module consists of a Tracking and Data Relay System which includes Cband communication electronic equipment and associated antennas used for linking the various user spacecraft with the ground terminal. Spacecraft electrical power is provided by two solar panels that are driven by stepper motors to track the sun. In geostationary orbit, three-axis earth/sun reference control is used to provide spacecraft pitch and roll-yaw stabilization.

INSTRUMENT NAME	ACRONYM	PI AFFILIATION	PRINCIPAL INVESTIGATOR	I&T CONTRACTOR
TELECOMMUNICATIONS MODULE	NONE	N/A	NONE	TRW

Instrument Descriptions

The TDRS 4 telecommunications module consists of a Tracking and Data Relay System which includes C-band communication electronic equipment and associated antennas used for linking the various user spacecraft with the ground terminal. The module includes the following principal elements of the TDRS payload: 1) Ku-band space-ground link equipment; 2) forward and return processors; 3) Ku- and S-band single access equipment; 4) S-band multiple access equipment and 5) frequency generation equipment.

Launch
4/4/83 (1)
1/28/86 (2)
9/29/88 (3)
3/13/89 (4)
8/2/91 (5)